

STN

FILE 'HOME' ENTERED AT 09:03:36 ON 27 JAN 2005

L1 1723 (LIGAND OR PEPTIDE) (S) (SUBSTRATE OR SURFACE) (S) (INDIRECT##
OR LINK#### OR TETHER####) AND (LIGAND OR PEPTIDE) (S) (VIRUS
OR (SURFACE OR MEMBRANE OR ENVELOPE) (A) (PROTEIN OR GLYOPROTEIN
))

L2 0 (POWERS OR ELLIS OR LLOYD)/AU AND (TAXONOMIC OR MICROORGANISM
OR PROTEIN OR LIGAND)/TI

L3 0 (POWERS OR ELLIS OR LLOYD)/AU AND (TAXONOMIC OR MICROORGANISM
OR PROTEIN OR LIGAND)

L4 0 (POWERS/AU OR ELLIS/AU OR LLOYD/AU) AND (TAXONOMIC OR MICROORGAN
ISM OR PROTEIN OR LIGAND)

L9 2905 L5 AND ((LLOYD, C?) OR (LLOYD C?))/AU OR ((ELLIS, W?) OR (ELLIS
W?))/AU

L10 28 L5 AND (((LLOYD, C?) OR (LLOYD C?))/AU OR ((ELLIS, W?) OR (ELLI
S W?))/AU)

L13 99 L1 AND VIRUS AND LIGAND (S) (VIRUS OR SURFACE OR MEMBRANE OR
ENVELOPE) (3N) (PROTEIN OR GLYCOPROTEIN)

L14 97 L13 AND (TETHER### OR LINK### OR INDIRECT### OR DISTNC####) (S)
(LIGAND OR PEPTIDE) (S) (SURFACE OR SUBSTRATE)

L15 1698 L1 AND (TETHER### OR LINK### OR INDIRECT### OR DISTNC####) (S)
(LIGAND OR PEPTIDE) (S) (SURFACE OR SUBSTRATE)

L16 645 L15 AND (LIGAND OR BIND? OR DETECT? OR DETERMIN? OR IDENT? OR
CAPTUR?) (S) (VIRUS OR MICROB? OR MICROORGANISM)

L17 38 L16 AND (LENGTH OR DISTANCE) (S) ((TETHER### OR LINK###) OR
(LIGAND OR PEPTIDE) (S) (SURFACE OR SUBSTRATE))

(FILE 'HOME' ENTERED AT 09:03:36 ON 27 JAN 2005)

FILE 'MEDLINE, CAPLUS, EMBASE, BIOSIS, SCISEARCH' ENTERED AT 09:08:35 ON
27 JAN 2005

L1 1723 S (LIGAND OR PEPTIDE) (S) (SUBSTRATE OR SURFACE) (S) (INDIRECT#

L2 0 S (POWERS OR ELLIS OR LLOYD)/AU AND (TAXONOMIC OR MICROORGANISM

L3 0 S (POWERS OR ELLIS OR LLOYD)/AU AND (TAXONOMIC OR MICROORGANISM

L4 0 S (POWERS/AU OR ELLIS/AU OR LLOYD/AU) AND (TAXONOMIC OR MICROOR

L5 1246 S ((POWERS L?) OR (POWERS, L?))/AU

L6 24 S L5 AND ((LLOYD, C?) OR (LLOYD C?))/AU

L7 375 S L5 AND (TAXONOMIC OR MICROORGANISM OR PROTEIN OR LIGAND)

L8 155 DUP REM L7 (220 DUPLICATES REMOVED)

L9 2905 S L5 AND ((LLOYD, C?) OR (LLOYD C?))/AU OR ((ELLIS, W?) OR (EL

L10 28 S L5 AND (((LLOYD, C?) OR (LLOYD C?))/AU OR ((ELLIS, W?) OR (E

L11 15 DUP REM L10 (13 DUPLICATES REMOVED)

L12 10 S L11 AND L8

L13 99 S L1 AND VIRUS AND LIGAND (S) (VIRUS OR SURFACE OR MEMBRANE OR

L14 97 S L13 AND (TETHER### OR LINK### OR INDIRECT### OR DISTNC####) (

L15 1698 S L1 AND (TETHER### OR LINK### OR INDIRECT### OR DISTNC####) (S

L16 645 S L15 AND (LIGAND OR BIND? OR DETECT? OR DETERMIN? OR IDENT? OR

L17 38 S L16 AND (LENGTH OR DISTANCE) (S) ((TETHER### OR LINK###) OR (

L18 22 DUP REM L17 (16 DUPLICATES REMOVED)

L12 ANSWER 1 OF 10 MEDLINE on STN
 AN 2003187544 MEDLINE
 DN PubMed ID: 12706558
 TI **Taxonomic** identification of **microorganisms** by capture and intrinsic fluorescence detection.
 AU Mason Hea-Young; **Lloyd Christopher**; Dice Margaret; Sinclair Robert; **Ellis Walther Jr**; **Powers Linda**
 CS National Center for the Design of Molecular Function, Department of Electrical Engineering, Utah State University, Logan, UT 84322-4155, USA.
 SO Biosensors & bioelectronics, (2003 May) 18 (5-6) 521-7.
 Journal code: 9001289. ISSN: 0956-5663.
 CY England: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 200404
 ED Entered STN: 20030423
 Last Updated on STN: 20040414
 Entered Medline: 20040413
 AB Quick and accurate detection of microbial contamination is accomplished by a unique combination of leading edge technologies described in this and the accompanying article. Microbe capture chips, used with a prototype fluorescence detector, are capable of statistically sampling the environment for pathogens (including spores), identifying the specific pathogens/exotoxins, and determining cell viability where appropriate.

L12 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:568650 CAPLUS
 DN 139:114099
 TI Method and apparatus for detecting the presence of microbes and determining their physiological status
 IN **Powers, Linda S.**; **Lloyd, Christopher R.**
 PA Microbiosystems Limited Partnership, USA
 SO Eur. Pat. Appl., 16 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1329514	A2	20030723	EP 2002-21592	20020927
	EP 1329514	A3	20040218		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR; BG, CZ, EE, SK				
	US 2003138875	A1	20030724	US 2002-54419	20020122
	US 6750006	B2	20040615		
	CA 2402575	AA	20030722	CA 2002-2402575	20020910
	JP 2003210193	A2	20030729	JP 2002-310523	20021025
	CN 1434285	A	20030806	CN 2002-147976	20021031
	US 2004171137	A1	20040902	US 2003-749329	20031231
PRAI	US 2002-54419	A	20020122		
AB	Method and apparatus for the detection of microbes in liqs., in air and on non-living surfaces in which samples are exposed to electromagnetic radiation of specific energies capable of exciting various metabolites, cofactors and cellular and spore components, with the microbial cells to be sampled (and more specifically the excited metabolites, cofactors and/or other cellular components) contained therein emit fluorescence that can be measured. The signal from the background and scattered excitation signals is removed from the fluorescence signals of the microbial				

components, the relative fluorescent signals of the intrinsic microbial components are required to lie within physiol. ranges, and the amplitude of the background-corrected fluorescence signals used to enumerate the microbe content in the sample.

L12 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:356110 CAPLUS

DN 138:349932

TI **Taxonomic** identification of pathogenic micro-organisms and their toxic **proteins**

IN **Powers, Linda S.; Ellis, Walther R., Jr.; Lloyd, Christopher R.**

PA Microbiosystems Limited Partnership, USA

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1308520	A2	20030507	EP 2002-21593	20020927
	EP 1308520	A3	20031112		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	US 2003124532	A1	20030703	US 2001-999159	20011101
	US 6780602	B2	20040824		
	CA 2402588	AA	20030501	CA 2002-2402588	20020910
	CN 1417347	A	20030514	CN 2002-143520	20020927
	JP 2003185668	A2	20030703	JP 2002-298010	20021010
	US 2004096910	A1	20040520	US 2003-706547	20031112
	JP 2004309493	A2	20041104	JP 2004-151015	20040520
	JP 2004309494	A2	20041104	JP 2004-151016	20040520
	JP 2004317520	A2	20041111	JP 2004-151017	20040520
	JP 2004333503	A2	20041125	JP 2004-151018	20040520
PRAI	US 2001-999159	A	20011101		
	JP 2002-298010	A3	20021010		

OS MARPAT 138:349932

AB The present invention describes a method for the binding of pathogenic **microorganisms** and their toxic **proteins** with **ligands** that have been covalently tethered at some distance from the surface of a substrate: distances of at least fifteen A are required for **microorganism** binding **ligand** tethers and at least six A are required for **protein** binding **ligand** tethers. The **ligands** described herein include heme compds., siderophores, polysaccharides, and peptides specific for toxic **proteins**, outer membrane **proteins** and conjugated lipids. Non-binding components of the solution to be analyzed are separated from the bound fraction and binding is confirmed by detection of the analyte via microscopy, fluorescence, epifluorescence, luminescence, phosphorescence, radioactivity, or optical absorbance. By patterning numerous **ligands** in an array on a substrate surface it is possible to taxonomically identify the **microorganism** by anal. of the binding pattern of the sample to the array.

L12 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:728652 CAPLUS

DN 129:327985

TI Method and apparatus for **taxonomic** identification of **microorganisms**, **proteins** and peptides involved in vertebrate disease states

IN **Powers, Linda; Ellis, Walther**

PA B-E Safe, Inc., USA
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9849557	A1	19981105	WO 1998-US8458	19980427
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9871649	A1	19981124	AU 1998-71649	19980427
PRAI	US 1997-847790	A	19970428		
	WO 1998-US8458	W	19980427		

AB Methods and apparatus are disclosed for use in the identification of **microorganisms, proteins** and peptides in which a **microorganism**-containing sample is contacted with a sensor chip having on a surface thereof a patterned array of a plurality of sections, each section having bonded thereto a **ligand** capable of binding a **microorganism, protein** or peptide. A number of different **ligands** are bonded to the various sections of the sensor chip, and thus serve to capture the **microorganism, protein** or peptide. Electromagnetic radiation is directed to the surface to ascertain which of the sections contains a **microorganism, protein** or peptide captured thereon, and then the **microorganism, protein** or peptide is identified as a function of one or more different **ligands** having a **microorganism, protein** or peptide bonded thereto. A graph is shown of the fluorescence excitation and emission spectrum of a sample of meat with and without Escherichia coli contamination and meat with fat having no E. coli contamination.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 9 OF 10 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN
AN 2004:303378 BIOSIS
DN PREV200400304036
TI Method for detecting the presence of microbes and determining their physiological status.
AU **Powers, Linda S.** [Inventor, Reprint Author]; **Lloyd, Christopher R.** [Inventor]
CS Logan, UT, USA
ASSIGNEE: Microbiosystems, Limited Partnership, Cheyenne, WY, USA
PI US 6750006 June 15, 2004
SO Official Gazette of the United States Patent and Trademark Office Patents, (June 15 2004) Vol. 1283, No. 3. <http://www.uspto.gov/web/menu/patdata.htm>
1. e-file.
ISSN: 0098-1133 (ISSN print).
DT Patent
LA English
ED Entered STN: 30 Jun 2004
Last Updated on STN: 30 Jun 2004
AB Method and apparatus for the detection of microbes in liquids, in air and on non-living surfaces in which samples are exposed to electromagnetic

radiation of specific energies capable of exciting various metabolites, cofactors and cellular and spore components, with the microbial cells to be sampled (and more specifically the excited metabolites, cofactors and or other cellular components) contained therein emit fluorescence that can be measured. The signal from the background and scattered excitation signals is removed from the fluorescence signals of the microbial components, the relative fluorescent signals of the intrinsic microbial components are required to lie within physiological ranges, and the amplitude of the background-corrected fluorescence signals used to enumerate the microbe content in the sample.

L12 ANSWER 10 OF 10 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on
STN
AN 2003:369799 BIOSIS
DN PREV200300369799
TI Finding a needle in a haystack: Detection and identification of microbial
contamination.
AU Powers, L. [Reprint Author]; Lloyd, C. [Reprint
Author]; Mason, H. Y. [Reprint Author]; Estes, C. [Reprint Author];
Duncan, A. [Reprint Author]; Wade, B. [Reprint Author]; Ellis, W.
Jr. [Reprint Author]
CS National Center for the Design of Molecular Function, Utah State
University, 4155 Old Main Hill, Logan, UT, 84322-4155, USA
SO Abstracts of Papers American Chemical Society, (2003) Vol. 225, No. 1-2,
pp. ANYL 5. print.
Meeting Info.: 225th American Chemical Society (ACS) National Meeting. New
Orleans, LA, USA. March 23-27, 2003. American Chemical Society.
ISSN: 0065-7727 (ISSN print).
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 13 Aug 2003
Last Updated on STN: 13 Aug 2003

WEST Search History

DATE: Thursday, January 27, 2005

Hide?	<u>Set</u> <u>Name</u>	<u>Query</u>	<u>Hit</u> <u>Count</u>
		<i>DB=PGPB,USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L10	L5 and ligand with substrate with (tether or linker or indirect\$)	24
<input type="checkbox"/>	L9	L5 and ligand same substrate with (tether or linker or indirect\$)	30
<input type="checkbox"/>	L8	L5 and ligand same substrate with (tether or linker oe indirect\$)	32
<input type="checkbox"/>	L7	L6 and l3	71
<input type="checkbox"/>	L6	L5 and ligand same substrate with (tether or linker or attach\$ or bound)	151
<input type="checkbox"/>	L5	l1 and ligand with substrate	387
<input type="checkbox"/>	L4	L3 and (ligand or peptide) with (envelope or surface) near3 \$protein	422
<input type="checkbox"/>	L3	L1 and ligand same (specific\$4 or bind\$ or recogniz\$) with (surface or envelope or membrane) with (polypeptide or \$5protein)	700
<input type="checkbox"/>	L2	L1 and ligand same (surface or envelope or membrane) with (polypeptide or \$5protein)	827
<input type="checkbox"/>	L1	(detect\$ determin\$ identif\$ bind\$ captur\$) same virus same (substrate or surface) with ligand	1209

END OF SEARCH HISTORY